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MINISIS RESOURCE PERSON SUPPORT  
IN LATIN AMERICA

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REPORT SUBMITTED BY THE CONSULTANT MS. CLEMENCIA TELLEZ TO THE  
INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC) IN COMPLIANCE WITH  
CONTRACT NO. 3-P-87-0339 OF DECEMBER 19, 1990

1. INTRODUCTION

This report covers study carried out by this Consultant in the cities of Mexico, F.D., Toluca and Mexicali from February 16 to 24, 1991; and in the city of Bogota, Colombia from March 4 to 8, 1991.

According to the terms of reference of Contract No. 3-P-87-0339, the Consultant was supposed to evaluate the effectiveness of the "MINISIS Resource Person (MRP)" concept, i.e., the resource person available in the Centro de Investigación y Docencia Económica (CIDE) [Centre for Research and Training in Economics], who provided support to the users.

In order to achieve these general objectives, the Consultant was supposed to:

- a.- Evaluate the support needs of some users of MINISIS and the support provided by the MRP. This involved visits to ECOPETROL in Bogota (the only institution which received training from a MRP); a minimum of two institutions in Mexico city who are users of MINISIS and received training from CIDE; the Legislature of the state of Mexico in Toluca; and two MINISIS user institutions in Mexicali, where direct contact with the MRP is more difficult.
- b.- From the interviews with these users, the Consultant was supposed to:
  - 1) Assess whether the MRP concept is an effective mechanism for providing the overall support required by MINISIS, particularly regarding:
    - training and documentation received;
    - support usually provided by the MRP.
  - 2) Find out whether the MRP concept is an effective means for the dissemination of information and promotion of MINISIS in Latin America; and whether communications among MRPs and users have been effective, as well as any steps that may be taken to improve them.
  - 3) Determine if the three-week basic training course on MINISIS is effective, or if, on the contrary, users feel there might be other more effective and less costly course alternatives.
  - 4) Identify what options would be available once users of MINISIS become self-sufficient and MRPs complete their mission, i.e., what kinds of services users would be willing to pay for.

- 5) Determine to what extent the rotation of staff who played the role of MRP has had an impact on MINISIS, and identify the measures that should be adopted in the future to minimize the impact of this kind of rotation.
- 6) Submit a detailed and satisfactory report of work accomplished to the Director of the Information Sciences Division of IDRC no later than March 31, 1991.

## 2. BACKGROUND

Given the expected increase in the number of MINISIS users in Latin America, IDRC developed a project to create "MINISIS Resource Persons" in Latin America in order to provide users with better and more efficient training and support in their quest for solutions to problems. To this effect, the IDRC developed a project with the participation of CIDE in Mexico and Colegio Mayor de Nuestra Señora del Rosario in Bogota. Under this project these institutions provided training and installation support for new MINISIS users in Latin America.

At that time (1988), IDRC felt that the limited number of users in Latin America did not justify the creation of a MINISIS Resource Centre in the region. However, it did not rule out the possible creation of such a centre in the future, given the region's vast area and the continuous increase in users that could be expected from the creation of MRPs. This became a reality in October 1990, when an agreement to this effect was signed with the Centro de Información Científica y Humanística (CICH) of the Universidad Autónoma de México (UNAM). According to the terms of that agreement, CICH was to play the role of MRC for Spanish-speaking countries in Latin America.

Thus, the MRPs project arose as a response to the needs for basic training in MINISIS and for finding a solution to the problems brought up by the users. This involved the identification of people with enough expertise in the operation of the system and who, with some additional training, were able to play the role of instructors.

This was the first time that IDRC used MRPs both to provide training and technical support to new users of MINISIS, and to play the role of vehicles for the promotion of MINISIS as a tool for the processing of text information. From the very beginning of the project, IDRC clearly set out the need to conduct an evaluation at the end of the project, in order to determine both the effectiveness of MRPs' support and any changes that might be required in the future to guarantee its cost-benefit for users of MINISIS.

### 3. PRELIMINARY STEPS FOR THE STUDY

During conversations conducted before the start of this study, it was determined that IDRC would select the institutions where the study was to be conducted. The Centre also undertook to get in touch with the persons to be contacted and to handle all logistical aspects necessary to ensure the success of the Consultant's work.

The decision was made to visit three kinds of institutions:

- institutions located in the same city as the MRP which, accordingly, were easily supported.
- institutions in cities other than where the MRP was located, but which had means for direct contact or transportation to meet its needs.
- institutions in areas remote from the city where the MRP is located, which had few possibilities for direct contact and where the cost of transportation was high.

To help the Consultant get acquainted with the work that had been carried out, IDRC provided her with all documents relating to the project and all relevant information. The strategy for the visits was also determined in consultation with the IDRC. It was decided that the first step should involve an interview with the MRP, Mr. Enrique Barreto, and a meeting of MINISIS users located in Mexico City. Arrangements were made for the Consultant to meet Mr. Enrique Barreto before travelling to Mexicali, in order to exchange ideas about his work and have a general idea of the concerns of users to be visited.

### 4. PERSONS INTERVIEWED

Annex 1 lists all persons interviewed by the Consultant. Some were suggested directly by IDRC; others approached the Consultant to make suggestions and voice concerns while this study was being conducted.

### 5. DEVELOPMENT OF THE STUDY CARRIED OUT BY THE CONSULTANT

The Consultant's work in Mexico was carried out according to the schedule agreed to with the IDRC, received by fax on February 8. Annex 2 lists activities conducted. In Bogota, the Consultant contacted Dr. José Rafael Ortiz of ECOPETROL and talked on the phone with Dr. Patricia Cuellar, who was the MRP at the Colegio Mayor de Nuestra Señora del Rosario.

## 5.1 INTERVIEW WITH THE MRP IN MEXICO CITY

The main objective of the preliminary interview with Mr. Enrique Barreto in CICH was to determine the scope of the MRP concept and its relationship with the institution he belonged to (i.e., CIDE). Another objective was to know what steps he had taken, the difficulties he had faced in his work, and his concerns about the future.

- a.- The interview revealed that the MRP's basic role was to provide both technical support for the installation of MINISIS and training to new users.
- b.- Regarding basic training courses, the interview also showed that three weeks was felt to be too long a period, both for the instructor and the trainees, which reduced course effectiveness. In this respect, the primary negative factors were the low degree of commitment of trainees regarding future development and the inadequacy of course materials. The MRP stressed the fact that most trainees were not familiar with the hardware.
- c.- From the inception of the agreement with CIDE, it had never been very clear what were the role and responsibilities of the MRP in his capacity as a member of the staff of CIDE. It was also not clear what responsibilities CIDE had as host of the MRP or its degree of support or commitment to the project.

It is worth noting that the role of MRP interfered with his duties as a member of the staff of the institution he belonged to. Support to users and assistance in finding solutions to problems clashed with institutional responsibilities. Dissemination and communication duties were felt to be a responsibility of the institution rather than the MRP's. No facilities were available for the professional training of assistants to support training activities, and there was very little time available for preparing demonstrations.

- d.- A major concern of the MRP was the reason why institutions became MINISIS users. In general, it was due to the need to create computerized systems in libraries and to acquire the equipment necessary to operate the software without having to incur any extra expense.
- e.- The MRP also stressed that, in his opinion, the lack of more direct contacts with users is most important. Since his retirement from CIDE, he is no longer in contact with them, and he virtually does not know what activities the users he supported may be engaged in. In this regard, he felt that this study was very valuable for the evaluation of the MRP project; his participation was highly beneficial to both parties.

## 5.2 INTERVIEWS IN INSTITUTIONS USING MINISIS

For the interviews with persons who had been trained by the MRP, the Consultant abided by the terms of reference established in the contract. Efforts were made so that those persons being interviewed felt free to make any comments they deemed fit. At all times, it was made clear that the goal of the evaluation was to work together in order to determine the best strategy for training and dissemination activities, on the basis of users' experiences and needs.

Before presenting the results of the evaluation, it is worth mentioning some general observations regarding the goals of the study conducted by the Consultant:

- a.- Only two of the institutions visited are using MINISIS. One of them is the Universidad Iberoamericana, who has set up a data base for its library, has transferred 80,000 records, has developed another application for theses, and will shortly have its catalogue on line. The other one is the State Legislature, which has barely begun to develop an application for state legislation.
- b.- The Instituto Mexiquense de Cultura, in Toluca, is using MINISIS, but had received no training from CIDE. The Institute has developed applications for the preparation of a Nahuac-Spanish dictionary (the first dictionary containing 10,000 terms of this indigenous language is ready for publication). They also have another application for managing the inventory of the cultural heritage of that state, on the basis of museum inventories. Another application for the management of special collections is being developed.
- c.- In general, institutions felt that communications with the IDRC in Canada are easier than with the MRP in Mexico. This is due to the fact that MINISIS provides communication facilities to reach Canada, where they have the assurance of finding a solution to the problem raised. It has often been difficult to contact the MRP both because of the frequent travels involved in training activities and because of staff rotation.
- d.- Users of MINISIS also pointed out that they do not fully understand the relationship between MRPs and the IDRC: they can contact both, which becomes a source of confusion. They feel that now that a MRC has been created, efforts should be made to clarify responsibilities and roles, in order to integrate efforts and determine strategies.
- e.- Most MINISIS users also wonder why, given the fact that MINISIS is promoted as a bibliographic package and that it is compatible with the MARC format, no prototypes have been developed to make setting up and learning MINISIS easier. They complain that the same application has to be developed over and over by each user. If the MRP was kept informed of the activities being carried out by users of MINISIS, he would be able to promote other users' developments and encourage exchanges amongst the various users in order to share experiences and knowledge.

- f.- In general, MINISIS users are not making good use of the MINISIS library for their learning activities. It seems that this resource is not being adequately promoted and that there are not enough reading materials for the evaluation of available developments.
- g.- MINISIS users see the MRP as a super-specialist, who has to be moving around constantly. They feel, however, that as a resource person he is unable to provide adequate support for their many needs, which arise out of the complexity and power of the software.

## 6. SUMMARY OF RESULTS OF INTERVIEWS

Results of interviews are summarized below, broken down according to the specific issues set out in the terms [of reference] of the contract.

### 6.1.1 EFFECTIVENESS OF MRPs FOR TRAINING

First of all, it should be noted that MRPs are not felt to be an effective mechanism for providing the overall support required by MINISIS users. Everybody agrees that MINISIS is a very powerful software package, but that it is not being used to its full capacity and that the MRP devotes most of his time to installing software and providing basic training.

Users also feel that, given the power and complexity of this software package, a single person, i.e., the MRP, cannot be conversant with all facilities. Even if he was familiar with them, he may not have used them. Users point out that MINISIS has undergone many modifications, which makes the software difficult to master, and that if permanent contact with its distributor, or with the MRP, is not available, it may be difficult for them to know which is the latest version.

- a.- Users made several suggestions to make it easier for MRPs to provide the overall support required by MINISIS:
  - 1) MRPs should rely on institutions which have developed expertise in the handling of MINISIS, and share their experiences and know-how.
  - 2) MRPs should maintain an inventory of user-developed applications that can be useful for other users interested in similar developments.
  - 3) MRPs should set up and support a system for basic assistance and immediate response to specific problems. This could lead to the creation of a data bank, accessible on-line through electronic mail, with a hub responsible for gathering and processing available information. (This should be a basic function of the MRC).

- b.- Users feel that training should be more comprehensive and not be restricted to the installation of the software package and the basic training course. The role of the MRPs is limited to basic aspects, which discourages in-depth study of the software package and the development of prototypes and models, which would enhance training activities.

Users also feel that training must both take into account applications developed by institutions who use MINISIS, and pay more attention to finding solutions to real problems. Also, users feel that it would be very useful to have a wider range of training and learning options, with the participation of specialists from other institutions.

Regarding training, users feel it is crucial to pay attention to the specific needs of trainees and instructors, bearing in mind that the training of adults should incorporate techniques best suited for this age group. Annex 3 includes some ideas on this matter, based on similar experiences with the use of other bibliographic software packages.

A general concern among users is that training must also include evaluations, both at the end of a cycle and later on, as follow-ups.

- c.- The Consultant feels that training programs and problems raised by the users can be grouped in four broad categories, which should be dealt with separately:
- 1) Knowledge of hardware (HP) and its operating system. It is worth noting that MINISIS was developed for the HP operating system.
  - 2) Training at systems level, i.e., training of those persons who handle equipment and are responsible for maintaining and managing the system.
  - 3) Training of those persons who will be in charge of applications, particularly the ones who, in the libraries (in this case) are responsible for feeding the system and defining levels and priorities for applications.
  - 4) Training of end users, i.e., training of those persons for whom applications are ultimately developed. For example: researchers, students who come to the library and want to access on-line the data base and print out the results of their searches.

On this issue in particular, it is felt that the training provided so far has been aimed at both 2 and 3 above, despite the fact that each category has different needs and entry level requirements.



- d.- Users indicated that the documentation provided during the training does not meet their needs and expectations. Materials are too difficult, hard to use, do not address the problems users may encounter when they use the software package, and do not lend themselves to finding quick solutions to the problems they may have to face.

A constant complaint of users regarding documentation is that transparencies used in training courses are copies of pages from the manuals. Users would like the course to provide them with additional training materials, of a complementary nature, that may be suitable for the particular needs of the various institutions.

Users would also like to have the manuals for the system, and that the documentation provide more examples, including errors and warnings. They would also like to have self-contained manuals, designed for self-study.

Users also complained that manuals are not updated when new improvements are introduced to the software package. They stressed that in the case of Latin American countries it is crucial that the documentation be available in Spanish – at least the documentation for intermediate-level users.

## 6.2 THE MRP AND DISSEMINATION OF INFORMATION

Regarding the effectiveness of the MRP concept for the dissemination of information and promotion of MINISIS, users feel that there is no communication between them and the MRP. All users receive the bulletins published by the IDRC, but complain of the lack of mechanisms both for horizontal exchanges and for dissemination of information.

In this regard, it is worth noting a concern mentioned at the outset of this report, i.e., the fact that neither CIDE's responsibilities vis-a-vis the IDRC, nor its role in the project, were clear. It is felt that the MRP's success in dissemination and promotion activities requires that the host institution provide strong support, especially with regard to the resources required by the MRP.

Regarding promotional activities of MINISIS in Latin America, it should be borne in mind that it is very difficult to cover such a vast geographical area where development level varies so greatly, with only one person and without efficient means of communication.

The Consultant is of the opinion that one possible avenue for the dissemination of information could be the development of prototypes and models, designed to handle specific functions, which might be of interest to the prospective clients. For instance, management of public catalogues in libraries is a common need of many Latin American institutions. The development of a model application by the IDRC, or some MINISIS user, could become a big incentive to promote this software package and deliver it operationally.

Users believe that, in order to improve communications both with the MRP and among users, it would be advisable:

- a.- To create MINISIS liaison centres, after properly identifying the skills and abilities available in those centres, which would be responsible for handling this software package. This strategy would make it possible to create interest groups having in common either the applications developed, or the kind of facilities they use among the ones provided by this software package.
- b.- To promote meetings of users, grouped on the basis of common knowledge sectors, or interest areas. Users feel that meetings organized by IDRC, although a useful mechanism for sharing experiences, do not ensure the participation of the majority of them, because of the inherent costs of these meetings. The possibility of holding meetings in their own country or state would increase the chances for exchanges, speed up finding solutions to common problems and make it easier to organize training activities.
- c.- Regarding this last issue, and given the differences in level of expertise among MINISIS users, it would be advisable to create two kinds of groups: expert groups and user groups. Expert groups would comprise mainly systems professionals; the second kind of group would be composed of persons who use applications and feed the systems.
- d.- To make an inventory of applications existing in the country and to publish an appropriate directory, which would be a useful tool to facilitate communication among peers. It is crucial not only to know the institutions where MINISIS has been installed, but also what it is being used for and what results have been achieved.
- e.- Expert centres should be devoted to the dissemination of MINISIS. Expert centres should be provided with the support and assistance that they require, and encouraged to become liaison centres with MRPs or MRCs.
- f.- To develop promotion and dissemination materials which are both easy to understand and easy to access by all users. It is felt that there is a need for a local bulletin covering concerns, questions and answers, common mistakes and faults, persons and institutions that can be contacted, etc.

Finally, it must be pointed out that users expect that the creation of MRCs will help solve all existing communication problems.

### 6.3 EFFECTIVENESS OF THE BASIC TRAINING COURSE

The analysis of the effectiveness of the basic training course is closely linked to the comments made in 6.1 above, where it was pointed out that one of the MRP's functions was precisely to provide these courses, once the software package had been installed.

One should also bear in mind the MRP's comments, referred to in 5.1.b above. Although the MRP was the person who assisted most users, and is a recognized MINISIS expert, he also felt that the three-week course was not as effective as expected, and that the cost was very high.

The MRP sometimes wondered why users had adopted MINISIS. In many cases, they had not clearly identified their need and, thus, motivation was low. In some cases, the entry level of trainees varied widely; some of them did not know at all the operating system or the equipment they were supposed to work with. According to the instructor, another factor which affected the results of the course was that students were not able to read technical English and, therefore, they were restricted to using the course materials available in Spanish, which left much to be desired.

The instructor also felt that the course was too lengthy because it was continuous, and that students lost interest because the course does not provide them with solutions to their problems and concerns. In other words, motivation and expectations of students varied widely depending on their level.

#### 6.3.1 CONCERNS REGARDING THE BASIC COURSE

Users interviewed indicated that, in general, they were not satisfied with the basic training course: they do not find it very effective, and, despite its basic nature, they feel it does not meet their expectations. They complain that the course is too theoretical; that the software package does not include examples that could speed up learning the system and mastering its many features; and, finally, that the course is not well structured.

During the interview, the following concerns were raised:

- a.- The basic three-week course is felt to be too long. In the case of persons who must travel to another location, they feel that once they get back to their jobs they cannot devote enough time to mastering what they have just learned, because they must give priority to the work backlog.
- b.- The basic course should be devoted to the training of instructors. Therefore, the conditions and characteristics of participants and the course structure itself should be very different from the present ones.
- c.- The basic course covers too much information in a very short period of time, which does not help comprehension and learning. The course is too theoretical: practical activities and exercises are limited to the materials handed out, which provide few opportunities to check for mistakes or errors.

- d.- Given the above, it is felt that a single instructor cannot give all the attention the training process requires and provide the necessary support to trainees with their exercises and their efforts at finding solutions to the problems dealt with in the course.
- e.- Users who took the basic course feel that it could be more effective if groups of trainees were more homogeneous, if there were entry requirements, and if courses were given at different levels, with different criteria.
- f.- Although interviewees were aware of the difficulties involved in organizing basic courses in each user institution, those persons who attended courses given within their own institution feel that this increases the effectiveness of the course and facilitates practical activities. Also, institution commitment is higher when courses are given within its premises.
- g.- The structure of the basic course does not lend itself to finding solutions to the problems of those persons who have a certain degree of familiarity with this software package.

#### 6.3.2 SUGGESTIONS TO INCREASE THE EFFECTIVENESS OF THE COURSE

Regarding the concerns and the problems raised by users about the basic course, interviewees made the following suggestions to increase the course's effectiveness and efficiency:

- a.- To make good use of courses organized by Hewlett-Packard. As a prerequisite to the basic course, trainees should be required to take basic instruction on machine operation fundamentals. If that were not possible, the basic course should include a refresher on machine fundamentals.
- b.- To provide course participants with materials beforehand, so that the training activities can be devoted to developing skills rather than merely to providing an overview of the software package.
- c.- To provide short one-week courses, structured by modules, utilities and/or processors, to be taught by instructors who are fully conversant with each particular module.
- d.- To prepare separate training and learning materials, with good practical examples, and, hopefully, in Spanish.
- e.- To set out strategies for both the evaluation of learning and follow up activities, with a view to measuring knowledge and requirements for advancement through the various training levels.
- f.- To improve manuals for this software package, in particular the preparation of indexes and tables of contents for the manuals.

- g.- To keep track of users' developments and to provide specific seminars or courses devoted to their description, use and possible adoption by other users. This would prevent duplication of efforts and would enhance the structure of the basic course.
- h.- To provide for the collaboration of MRPs or MRCs with other institutions which have the capability to teach MINISIS courses; this would require specific agreements or contracts. Suitable institutions include the Universidad del Valle de México and the Universidad de Baja California.
- i.- To develop basic training modules, suitable for self-study, if possible; these would include printed and audiovisual materials, as well as materials on magnetic media.

## 7. THE FUTURE OF THE MRP AND PAYMENT FOR SERVICES

Regarding eventual self-sufficiency of MINISIS users and the future role of MRPs, users are concerned that, since MINISIS has undergone so many changes over the years, they feel they would not be able to become self-sufficient in the short term if further changes were made to this software package.

Users are also concerned that, with the introduction of ILS, the IDRC may reduce support for MINISIS, which would have a negative impact on those institutions who have adopted and are effectively using this system. They also wonder what will happen to the MPE and to the MINISIS platform environment.

Given the above, and even if users eventually become self-sufficient, it is felt that the MRP, recognized as a MINISIS specialist, will not be eliminated, but rather that his role would change. The number of MRPs is bound to increase over the years, once this software package is used more extensively. It would be advisable to maintain a list of MRPs, classified by their MINISIS field of specialization. MRCs could use them, with a multiplying effect, to provide support and liaison for user groups organized by specialization or geographical area in Mexico and Latin America.

Regarding payment for services, interviewees feel that the creation of a MRC in Mexico will contribute to finding solutions to the problems they presently face and to meeting the many needs of their institutions. They are aware that good service cannot be free if quality is not to suffer. Interviewees would be willing to pay for:

- a.- Timely and suitable information. They would be willing to subscribe to a periodical bulletin providing information on MINISIS: developments, questions and answers, events, updates, etc.
- b.- Materials and documents to facilitate learning and handling of the software package, preferably in Spanish. They are willing to pay for complete manuals, with tables of contents and updates.

- c.- Training and refresher courses. They are willing to pay, particularly for refresher courses – as long as they are of suitable quality, the materials are adequate and courses are given by specialists in each particular field dealt with.
- d.- Technical advice and assistance in finding solutions to specific problems. They are willing to pay for technical service and fees by the hour.
- e.- Prototypes, models, developments or standardized applications of a general nature, suitable for common needs of the various institutions. For instance, if the IDRC or the MRC were to develop a general application for the management of library inventories, with options to adapt it to specific needs, users would buy such an application rather than spend time developing it in each institution separately. They are willing to pay for interfaces for the transfer of data bases developed with other systems.

As it can be seen, the services MINISIS users are willing to pay for are the kind of services which require an infrastructure more complex than the one a MRP working in a host institution can provide. This underlines the philosophy of the MRC as a resource and service centre which must generate income in order to become self-sufficient.

This particular aspect of MRCs, which was not an integral part of this study, is dealt with in Annex 4, which summarizes the interview with Margarita Alamada de Ascencio, Director of CICH. The Consultant feels that if the MRC is to achieve its goals and meet the expectations of users, both the MRC concept and its operation and services must be redefined.

## 8. ROTATION OF MRPs

In general terms, it can be said that rotation and mobility of MRPs considerably affect promotion and dissemination of MINISIS and discourage users, who do not have a liaison and contact centre where they can obtain support for their needs and problems. from continuing to use this system.

In the case of Mexico, the retirement of Mr. Enrique Barreto from CIDE created problems both for CIDE and for the users. One cannot ignore the fact that the MRP is a person who possesses not only knowledge and abilities, but also has a personality and human characteristics.

Regardless of all this, the MRP's role involves continuous travelling to give courses and install the software package in the institutions who adopt it. As a result, the MRP is not available when he is most needed by users, who prefer to wait until he returns to submit their questions. This leads to a feeling of isolation among users, who complain that they lack the technical support they need to make progress.

In order to remedy the problems involved in the travel of the MRP, users feel it would be advisable to identify groups of specialists and to create expert centres, classified according to their degree of technical expertise and the support resources they can provide to the users. This would give users the assurance that they can always rely on a MRP when needed, even if this entails paying for his services. Users also feel that super-specialists must be eliminated and replaced with several specialists (both institutions and persons) who would be responsible for different problems and specialty areas.

Moreover, they feel that a multi-faceted approach would make progress faster and promote more integral developments.

In the case of Colombia, where the MRP gave only one course for ECOPETROL, and where there are not many MINISIS users, the retirement of the MRP and, thus, the cancellation of the project, did not have such a negative impact because cooperative work had been one of the major characteristics of information systems. Staff who received training in ECOPETROL had a multiplying effect and, despite internal changes, the software package is used efficiently.

It is worth noting that, since a MRP was not available, ECOPETROL boosted its system structure and organized in-house training activities to support its own developments. Although not a MRC, this institution is recognized as having played a leadership role, and thus shortening the distance.

## 9. CONCLUSIONS AND RECOMMENDATIONS

To conclude this report, the Consultant feels it is appropriate to point out some relevant aspects, both those felt to be basic by the interviewees or considered critical by the Consultant:

- a.- Although the IDRC had a clear idea of what the MRP concept involves when it provided financing for the projects, in practice, it appears that the MRP must play many roles. This he can do only if the institution where he works provides him with all the support he may require and makes available to him the resources necessary for his activities.
- b.- The role of the MRP as a super-specialist who must have in-depth knowledge of each and every MINISIS characteristic and facility is not realistic. He cannot work alone: to function effectively, he should receive the cooperation of other specialists and be in constant touch with users. Because of this, it is advisable to create expert centres which could provide support to the MRP and share his responsibilities.
- c.- The creation of MRCs involves the identification of existing and available MRPs in Mexico and Latin America, so that they can be assigned to the support groups to be created, with a view to speeding up and facilitating the promotion of MINISIS and training activities for this software.

- d.- In order to improve training activities during basic, advanced or refresher courses, it is recommended to have other institutions involved in training activities and make them responsible for some courses and teaching materials. This would speed up the process and would make it possible to develop materials for all courses, which could be made available for purchase to all countries and institutions which may need them.
- e.- To support IDRC's efforts to update and maintain the software package, it would be advisable to promote research activities in/with MINISIS, with a view to developing prototypes, models, manuals, etc. (For instance, the MINISIS shell should be made more user-friendly).
- f.- It would also be advisable to promote and facilitate meetings of a technical nature with the participation of users in each region; meetings of specialists (MRPs) for each subject area; and meetings of liaison and expert centres. These meetings would encourage the sharing of experiences and the promotion of strategies for future development.
- g.- Finally, it must be stressed that MINISIS is recognized as a very powerful tool with many possibilities for users, and thus it is worth continuing to upgrade it. Users feel very grateful to the IDRC for its efforts in helping to implant information systems in Latin America and they expect that they will continue to receive such valuable support and collaboration in the future.

The Consultant would like to thank IDRC for the efficient organization and support provided for carrying out this study. Also, she would like to thank all institutions and persons who participated in the evaluation of the project and who made it possible to achieve the stated goal, particularly CICH and the MRP, Mr. Enrique Barreto, for his timely collaboration and assistance.

Bogota, March 23, 1991.



PERSONAS ENTREVISTADAS DURANTE LA CONSULTORIA  
PARA EVALUAR LOS MRPs

- 1.- Enrique Barreto (MRP)  
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- 3.- Magdalena Ramos  
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- 4.- Doctora  
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- 5.- Pilar Rangel Onofre  
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PROGRAMA DE TRABAJO CUMPLIDO EN MEXICO DE ACUERDO CON EL  
PLAN CONCERTADO POR EL IDRC

18 de febrero - en CICH. UNAM:

Reunión con Enrique Barreto. Enrique Barreto quien era el MRP cuando trabajaba para el CIDE.

18 febrero - en CICH

Reunión con Enrique Barreto, con los de la Universidad Iberoamericana - Lic. Fernando Alvarez, Mtra. Adriana Arellano y con la Universidad del Valle de México - Srta. Pilar Rangel Onofre y Lic. Carlos Coloch Camacho.

~~19 febrero - en la Universidad del Valle:~~

Reunión con Srta. Rangel y Lic. Coloch

20 febrero - en la Universidad Iberoamericana

Reunión con las mismas personas que representaron la Iberoamericana en la reunión del 18

21 febrero - en el "H" Poder Legislativo, Toluca:

Reunión con C. Gregorio Hernández - C. Luis M. Reyes e Ing. Germán Barreto

21 febrero

Reunión con Enrique Barreto. El sitio se confirmará con él el 18 de febrero

22 febrero - en CETYS:

Reunión con los de CETYS - M.C. Sergio Rebollar (Director de Informática) y la Lic. Cecilia Avilés (Directora Biblioteca) y los de la Universidad de Baja California. Fernando Vásquez, Jefe Departamento de Desarrollo y Rubén Cerda, Coordinador de Diseño y Documentación.

## GENERAL CONSIDERATIONS REGARDING TRAINING

Training of staff is an essential component of every automatization project. A properly planned training program facilitates the implementation of the system adopted, once it is recognized that training is the institution's most important activity.

Training activities provide an excellent opportunity for assuaging most major concerns people may have regarding computerized systems, i.e., loss of control over their own work, loss of personal benefits because of change, and loss, or decrease, of their creative abilities and judgment.

Once the need for training is recognized, specific programs must be developed to meet this need. The training process can be divided into two phases. The first one deals with the identification of the specific goals and objectives of the training program, the outputs of training, and the selection of methods for development of the program and selection of the instructors. In general, this first phase is the responsibility of the systems area.

The second phase involves development of programs, selection of teaching methods and preparation of training materials. In general, during this process, the system area plays the role of coordinator, provides system support and makes contributions to the preparation of materials and development of examples based on real-life situations or using their own data bases.

Attention must be paid to the principles of learning theory throughout this process, especially to aspects relevant to adult learning. One of the main tenets of learning theory is that learning is an active process: trainees must be willing to learn and understand what is taught, have numerous opportunities for practice, be capable of associating new learning to relevant materials and have a positive attitude towards the evaluation of the process.

A fundamental tenet of learning theory regarding adult learning is that adults are self-motivated: adults learn if they have the need to learn and they feel responsible for the process. To promote their learning process, adults must be actively involved in the planning process (first phase), and should be allowed to determine their needs and to define their objectives. During the second phase, both the basic principles of learning theory, in general, and those of adult learning, in particular, should be reinforced, in order to help instructors create training situations which promote permanent acquisition of learning.

## EVALUATION

When training programs are developed in response to organizational needs and are geared to meeting those needs efficiently and effectively, the evaluation of programs and the planning process itself becomes an essential component of the training program development cycle.

The evaluation must stress improvements to the programs and not be limited to determining whether the proposed goals and objectives were reached. In addition to being the process for determining the effectiveness, efficiency and impact of activities, in light of present objectives, future planning, programmed schedules and decision-making, evaluation must also be a learning situation, and a management tool. From this perspective, evaluation must take into account both the validity of goals and objectives, whether these objectives have been attained or not, and the validity of methods used.

Evaluation strategies must also take into account the goals and objectives at the various levels of learning. Educational experts agree that results of training form a hierarchy, and that results at a higher level cannot be reached without achieving the goals and objectives of the lower levels (Hamblin 74, pp. 13-22). Said levels are:

- Reactions/feelings: trainees react to the instructor, the training method, the environment and the subject matter.
- Learning: trainees acquire the ability and aptitude for developing new behaviours.
- Improvement in performance: trainees apply learning to their work, thus demonstrating transfer of learning.
- Organization: the trainee's experience modifies the institution's behaviour.

For the evaluation of a program to be more effective, the evaluation must stress the particular goals of the level the training activities have a more direct impact on. For instance, the main objective of activities for familiarizing users with the public catalogue is to make people feel at ease with the keyboard and with the system. Thus, evaluation must concentrate on the reactions/feelings level.

## CONCLUSION

The development of a training program is a cyclical process. The first step is to recognize that there is a problem or a situation which can benefit from training. This is the starting point of the cycle, which can be divided into four phases: evaluation of needs; program development; training events; and evaluation.

The systems area has the goal of facilitating the search for more effective solutions to the original problem or situation, thus increasing the effectiveness and efficiency of the cycle. This requires the participation of all concerned staff during the stages of evaluation of needs and program development. The process must take heed of the basic tenets of learning theory, both general ones and those specific to adults, which include evaluations at all phases of the process, and remain open to new useful technologies and resources.

## GENERAL CONSIDERATIONS REGARDING MRCs

In accordance with the original work plan, at the end of the interviews with the users in Mexico City and Toluca, a meeting was held at the CICH. Participants exchanged views on the results of the study and raised their concerns regarding the operation of the MRC, the creation of which users were already aware.

Given that MRPs have direct links with institutions which may eventually become expert centres and/or MRCs at some future date, the Consultant felt it was appropriate that concerns regarding the operation of said centres should be addressed, particularly at this stage, when the first one of these centres has only just begun operating in Latin America.

The following subjects were discussed with Mrs. Alamada and with the MRP, Mr. Enrique Barreto.

1. Nature of the MRC. It could be:
  - a- a coordination and liaison centre, or
  - b- a support centre; if so, what activities must be supported?
    - training
    - technical assistance
    - development
    - research
  - c- a combination of both types
2. Type of operations and mandate of the MRC. The Centre could:
  - a- reach agreements with other institutions to share responsibilities, with a view to ensuring that its goals are better attained.
  - b- reach agreements with institutions and persons responsible for specific activities.
  - c- identify MRPs available in Mexico and Latin America, in order to set up a network of specialists, classified by function.
  - d- create work groups, organized by specialization or area of interest/need, to speed up the process of finding solutions to problems.
  - e- develop models and prototypes to find solutions to common problems, and organize special training programs to make them available to users.
  - f- develop learning materials, tutorials and manuals to speed up training.



- g- have data banks available for technical consultations on-line; this would make constant updating easier, both for the MRC and for the users.

3. Role of the MRC and its relations with Latin America:

- a- It is suggested that a regional network of MRCs be created, which would include national liaison centres, expert centres and support centres.
- b- Said centres will be responsible for the development of specific activities.
- c- Meetings should be held at both regional and subregional levels; participants should be grouped by specialization or by common needs/problems.

4. Communication strategies required to provide users with up-to-date information. It should be pointed out that this is the weakness mentioned most often.

5. Relationships with the IDRC, and management thereof. Particular attention should be paid to the sharing of MINISIS management and technical assistance responsibilities, in order to avoid duplication of functions.

6. Identification of weaknesses, needs and problems relevant to the strategies for the planning of the MRC operations.

7. Possibility that the MRC develop and make available for purchase services such as:

- courses developed with the cooperation of universities and expert centres;
- development of applications;
- support materials and publications;
- system analysis and design; system management

8. Modalities for the basic training course:

- short-term courses;
- courses devoted to finding solutions to installation and operational problems;
- courses provided both by the MRC and within the institutions which so request;
- machine operation courses which make good use of Hewlett-Packard training activities.

9. Integration of CICH's expertise in MINISIS with activities of the MRC.

The above concerns were addressed by Mrs. Almada, who also feels that the results of the evaluation will be most important for the CICH, since they will be the basis for the structure and operation of the MRCs.

Finally, it is worth noting that this process of promoting MINISIS should take into account the experiences obtained in Latin America with the distribution and operation of UNESCO's CDS-Micro/isis.